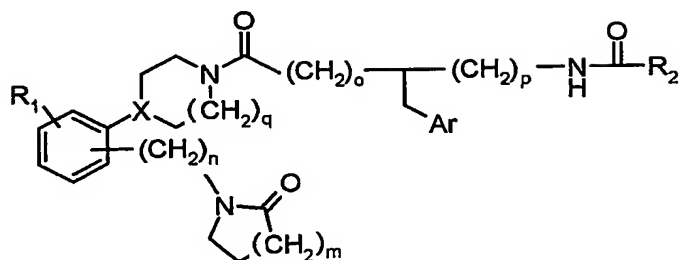


CLAIMS

1. A compound of structural formula (I):



(I)

or a pharmaceutically acceptable salt or solvate thereof, wherein

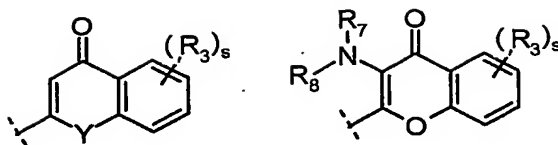
Ar is:

aryl or heteroaryl which may both be substituted or unsubstituted;

R_1 is independently:

hydrogen,
hydroxy,
cyano,
nitro,
halo,
alkyl,
alkoxy or
haloalkyl;

R₂ is:



each R₃ is independently:

hydrogen,

halo,

alkyl,

haloalkyl,

hydroxy,

alkoxy,

S-alkyl,

SO₂-alkyl,

O-alkenyl,

S-alkenyl,

NR₇C(O)R₇,

NR₇SO₂R₇,

N(R₇)₂

(D)-cycloalkyl,

(D)-aryl,

(D)-heteroaryl or

(D)-heterocyclyl (wherein heterocyclyl excludes a heterocyclyl containing a single nitrogen), and

wherein aryl, heteroaryl, heterocyclyl, alkyl and/or cycloalkyl may be substituted or unsubstituted, and two adjacent R₃ may form a 4- to 7-membered ring;

R₇ and R₈ are each independently:

hydrogen,

alkyl or

cycloalkyl, or

R₇ and R₈ together with the nitrogen to which they are attached form a 5- to 8-membered ring,
wherein alkyl and cycloalkyl are both unsubstituted or substituted;

D is a bond or alkyl;

X is CH or N;

Y is O or NR₇;

n is 1 - 4;

m is 0 - 3;

o is 0 - 2;

p is 0 - 2;

q is 1 or 2;

s is 0 - 4.

2. The compound of claim 1, wherein

Ar is:

aryl which may be substituted with one to three substituents independently selected from the group consisting of cyano, nitro, perfluoroalkoxy, halo, alkyl, (D)-cycloalkyl, alkoxy and/or haloalkyl;

R₁ is independently:

hydrogen,

hydroxy,

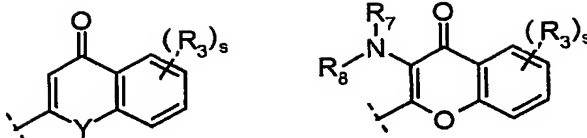
halo,

alkyl,

alkoxy or

haloalkyl;

R₂ is:



each R₃ is independently:

hydrogen,
halo,
alkyl,
haloalkyl,
hydroxy,
alkoxy,
S-alkyl or
SO₂-alkyl,
O-alkenyl or
S-alkenyl;

R₇ and R₈ are each independently:

hydrogen,
alkyl or
cycloalkyl, or

R₇ and R₈ together with the nitrogen to which they are attached form a 5- to 7-membered ring optionally containing an additional heteroatom selected from O, S and NR₄;

D is a bond or CH₂;

X is CH or N;

Y is NR₇ or O;

n is 1 or 2;

m is 1 - 3;

o is 0 or 1;

p is 0 or 1;

q is 1;
s is 1 - 3.

3. The compound of claim 1 or 2, wherein

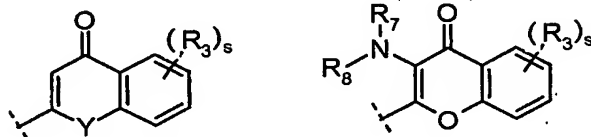
Ar is:

phenyl or naphthyl which may be substituted with one or two substituents independently selected from the group consisting of perfluoroalkoxy, halo, alkyl, alkoxy and haloalkyl;

R₁ is independently:

hydrogen,
alkoxy,
halo or
alkyl;

R₂ is:



each R₃ is independently:

hydrogen,
hydroxy,
alkoxy,
SO₂-alkyl or
iso-propyl;

R₇ and R₈ are each independently:

hydrogen or

alkyl, or

R_7 and R_8 together with the nitrogen to which they are attached form a 6-membered ring optionally containing an additional oxygen atom;

X is CH or N;

Y is N-alkyl or O;

n is 1;

m is 1 - 3;

o is 0 or 1;

p is 0 or 1;

q is 1.

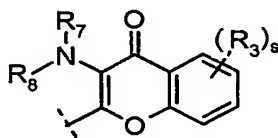
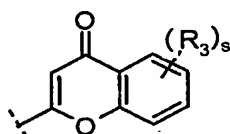
4. The compound of any of claims 1 to 3, wherein

Ar is:

phenyl or naphthyl which may be substituted with halo;

R_1 is hydrogen;

R_2 is:



each R_3 is independently:

hydrogen,

hydroxy,

alkoxy,

SO₂-alkyl or

iso-propyl;

R_7 and R_8 are each independently:

hydrogen or

alkyl, or

R₇ and R₈ together with the nitrogen to which they are attached form a 5- to 6-membered ring optionally containing an additional oxygen atom;

X is CH or N;

n is 1;

m is 1 or 2;

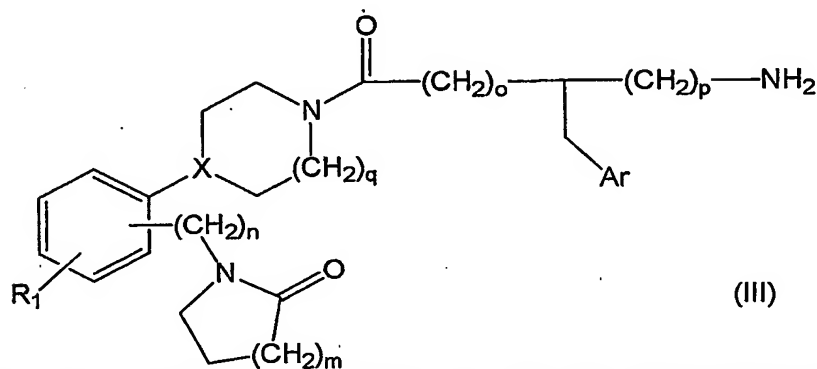
o is 0;

p is 0;

q is 1

s is 1 - 2.

5. The compound of any of claims 1 to 4 for use as a medicament.

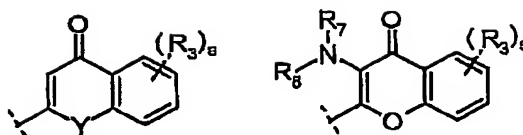


(III)

6. Use of the compound of any of claims 1 to 4 for the preparation of a medicament for the treatment or prevention of disorders, diseases or conditions responsive to the inactivation or activation of the melanocortin-4 receptor.
7. Use according to claim 5 for the treatment or prevention of cancer cachexia.
8. Use according to claim 5 for the treatment or prevention of muscle wasting.

9. Use according to claim 5 for the treatment or prevention of anorexia.
10. Use according to claim 5 for the treatment or prevention of anxiety and/or depression.
11. Use according to claim 5 for the treatment or prevention of obesity.
12. Use according to claim 5 for the treatment or prevention of diabetes mellitus.
13. Use according to claim 5 for the treatment or prevention of male or female sexual dysfunction.
14. Use according to claim 5 for the treatment or prevention of erectile dysfunction.
15. A pharmaceutical composition which comprises a compound of any of claims 1 to 4 and a pharmaceutically acceptable carrier.

R₂ is:



each R₃ is independently:

hydrogen,

halo,

alkyl,

haloalkyl,

hydroxy,

alkoxy,

S-alkyl,

SO₂-alkyl,

O-alkenyl,

S-alkenyl,

NR₇C(O)R₇,

NR₇SO₂R₇,

N(R₇)₂

(D)-cycloalkyl,

(D)-aryl,

(D)-heteroaryl or

(D)-heterocyclyl (wherein heterocyclyl excludes a heterocyclyl containing a single nitrogen), and

wherein aryl, heteroaryl, heterocyclyl, alkyl and/or cycloalkyl may be substituted or unsubstituted, and two adjacent R₃ may form a 4- to 7-membered ring;

R₇ and R₈ are each independently:

hydrogen,

alkyl or

cycloalkyl, or

R₇ and R₈ together with the nitrogen to which they are attached form a 5- to 8-membered ring,

wherein alkyl and cycloalkyl are both unsubstituted or substituted;

D is a bond or alkyl;

X is CH or N;

Y is O or NR₇;

n is 1 - 4;

m is 0 - 3;

o is 0 - 2;

p is 0 - 2;

q is 1 or 2;

s is 0 - 4.

2. The compound of claim 1, wherein

Ar is:

aryl which may be substituted with one to three substituents independently selected from the group consisting of cyano, nitro, perfluoroalkoxy, halo, alkyl, (D)-cycloalkyl, alkoxy and/or haloalkyl;

R₁ is independently:

hydrogen,

hydroxy,

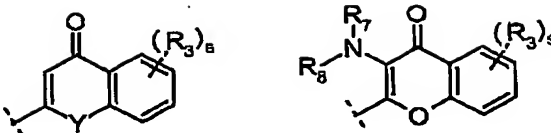
halo,

alkyl,

alkoxy or

haloalkyl;

R₂ is:



each R₃ is independently:

hydrogen,
halo,
alkyl,
haloalkyl,
hydroxy,
alkoxy,
S-alkyl or
SO₂-alkyl,
O-alkenyl or
S-alkenyl;

R₇ and R₈ are each independently:

hydrogen,
alkyl or
cycloalkyl, or

R₇ and R₈ together with the nitrogen to which they are attached form a 5- to 7-membered ring optionally containing an additional heteroatom selected from O, S and NR₄;

D is a bond or CH₂;

X is CH or N;

Y is NR₇ or O;

n is 1 or 2;

m is 1 - 3;
 o is 0 or 1;
 p is 0 or 1;
 q is 1;
 s is 1 - 3.

3. The compound of claim 1 or 2, wherein

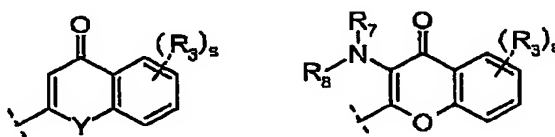
Ar is:

phenyl or naphthyl which may be substituted with one or two substituents independently selected from the group consisting of perfluoroalkoxy, halo, alkyl, alkoxy and haloalkyl;

R₁ is independently:

hydrogen,
 alkoxy,
 halo or
 alkyl;

R₂ is:



each R₃ is independently:

hydrogen,
 hydroxy,
 alkoxy,
 SO₂-alkyl or
 iso-propyl;

R_7 and R_8 are each independently:

hydrogen or

alkyl, or

R_7 and R_8 together with the nitrogen to which they are attached form a 6-membered ring optionally containing an additional oxygen atom;

X is CH or N;

Y is N-alkyl or O;

n is 1;

m is 1 - 3;

o is 0 or 1;

p is 0 or 1;

q is 1.

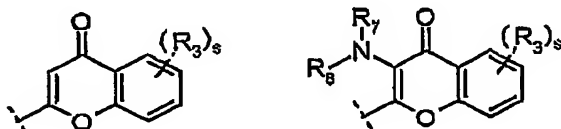
4. The compound of any of claims 1 to 3, wherein

Ar is:

phenyl or naphthyl which may be substituted with halo;

R_1 is hydrogen;

R_2 is:



each R_3 is independently:

hydrogen,

hydroxy,

alkoxy,

SO_2 -alkyl or

Iso-propyl;

R₇ and R₈ are each independently:

hydrogen or

alkyl, or

R₇ and R₈ together with the nitrogen to which they are attached form a 5- to 6-membered ring optionally containing an additional oxygen atom;

X is CH or N;

n is 1;

m is 1 or 2;

o is 0;

p is 0;

q is 1

s is 1 - 2.

5. The compound of any of claims 1 to 4 for use as a medicament.
6. Use of the compound of any of claims 1 to 4 for the preparation of a medicament for the treatment or prevention of disorders, diseases or conditions responsive to the modulation of the melanocortin-4 receptor in a mammal, where modulation means activation in the case of MC4-R agonists or inactivation in the case of MC4-R antagonists.
7. Use of MC4-R antagonists according to claims 6 for the preparation of a medicament for the treatment or prevention of cancer cachexia.
8. Use of MC4-R antagonists according to claims 6 for the preparation of a medicament for the treatment or prevention of muscle wasting.

9. Use of MC4-R antagonists according to claims 6 for the preparation of a medicament for the treatment or prevention of anorexia.
10. Use of MC4-R antagonists according to claims 6 for the preparation of a medicament for the treatment or prevention of anxiety and/or depression.
11. Use of MC4-R agonists according to claims 6 for the preparation of a medicament for the treatment or prevention of obesity.
12. Use of MC4-R agonists according to claims 6 for the preparation of a medicament for the treatment or prevention of diabetes mellitus.
13. Use of MC4-R agonists according to claims 6 for the preparation of a medicament for the treatment or prevention of male or female sexual dysfunction.
14. Use of MC4-R agonists according to claims 6 for the preparation of a medicament for the treatment or prevention of erectile dysfunction.
15. A pharmaceutical composition which comprises a compound of any of claims 1 to 4 and a pharmaceutically acceptable carrier.